

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	§	
Steven Tysoe et al.	§	Group Art Unit: 1773
	§	
Application No.: 10/672,623	§	Examiner: Le, Hoa T.
	§	
Filed: September 26, 2003	§	Confirmation No.: 8056
	§	
For: SOFT MAGNETIC PARTICLES	§	Atty. Docket: 134763-1/YOD/CHI
METHODS OF MAKING AND	§	GERD:0381
ARTICLES FORMED THEREFROM	§	

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April 5, 2010  
Date

/Patrick S. Yoder/  
Patrick S. Yoder

**REPLY BRIEF PURSUANT TO 37 C.F.R. §§ 41.31 AND 41.41**

The appellants hereby files this Reply Brief in response to the Examiner's Answer mailed on February 5, 2010, and in furtherance to the Supplemental Appeal Brief electronically filed on July 8, 2009.

The appellants submit that no fees are due in association with this Reply Brief. However, if any fees are deemed necessary in association with this Reply Brief, then the appellants authorize the Commissioner to charge the requisite fees to Deposit Account No. 07-0868, Order No. 134763-1/YOD (GERD:0381).

As a preliminary matter, the appellants respectfully point out that the examiner indicated that the Examiner's Answer is in response to the Appeal Brief filed March 5, 2007 appealing from the Office Action mailed May 10, 2006 and also in response to the Supplemental Appeal Brief filed July 8, 2009. Examiner's Answer, page 2. The appellants note that the examiner did not make reference to the appellant's Reply Brief filed August 3, 2007. However, the Docketing Notice mailed on December 24, 2009 by the Board of Patent Appeals and Interferences indicates the proper filing and docketing of the Reply Brief filed August 3, 2007. The appellants respectfully request consideration of the arguments presented in the Reply Brief filed August 3, 2007. Furthermore, the appellants also request consideration of arguments to be presented below in this present Reply Brief.

**A flat shape does not anticipate an elongated shape.**

The appellants respectfully urge the Board to review and reverse the examiner's sole ground of rejection of claims 1 and 25 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,940,388 ("Moro"). The examiner maintains that the flat shape of the soft magnetic material disclosed in Moro anticipates the elongated shape required by claims 1 and 25. *See* Examiner's Answer, page 7. Specifically, the examiner argues that Moro teaches an elongated shape because "Moro discloses a flat shape having an aspect ratio of 5 to 25, which ratio clearly defines an elongated shape." *Id.* The examiner's interpretation of the Moro reference is flawed.

An elongated shape is fundamentally different from a flat shape. An aspect ratio of an elongated shape may be defined by the ratio of the largest dimension (e.g., length) of an object to the smallest dimension (e.g., width) of the object. An elongated shape is not necessarily limited by its thickness. In contrast, Moro defines "aspect ratio" as the "ratio of flattening." Moro, col. 3, lines 41-43. The appellants interpret this definition to mean that the shape described in Moro has a thickness 5 to 25 times less than its diameter. *See id.* In other words, the aspect ratio of a flattened shape may be defined by the ratio of a diameter (e.g., length or width) of an object to the *thickness* of the object.

Clearly, an elongated shape is different from a flat shape, as each shape can be defined by a different aspect ratio. For example, a tube may be elongated, as a tube may have a length greater than its width. However, the tube may not be flattened, as it may have a circular, cross-sectional thickness (e.g., diameter) equal to its width.

The appellants believe that the examiner intended to imply that an elongated object, such as the claimed particles, could also be flat. That is obviously correct. An object that is elongated may also be flat, and likewise, an object that is flat may also be elongated. However, objects that are elongated are not necessarily flat, and objects that are *flat* (as in the case of the Moro particles) are *not necessarily elongated*. For example, any object with a thickness significantly smaller than its diameter would be considered flat (e.g., a coin). However, a coin would not be considered elongated.

The point to be considered by the Board is that Moro discloses a *flat* shape, and *not an elongated shape*. Clearly, the issue is not whether the claimed elongated shape *could be flat*, but whether Moro teaches or discloses elongated particles. It does not. That being the case, Moro does not support the rejection.

**Disclosing 0.3 to 5.0 weight percent does not anticipate the weight percent ranges claimed.**

The examiner contends that Moro discloses a range for an amount of an insulating material from about 0.05 weight percent to about 1.0 weight percent (claim 1) or from about 0.05 weight percent to about 0.15 weight percent (claims 2, 25 and 31) because the reference *refers to an amount less than 0.3 weight percent to be undesirable*. Moro specifically discloses a range from 0.3 to 5.0 weight percent, which is significantly greater than the 0.05 to 0.15 weight percent claimed. *See* Moro, col. 5, lines 10-22.

The examiner would misapply precedent in which it has been held that, *if taught*, ranges not favored in the prior art could nevertheless anticipate later claims to those taught, but unfavored ranges. That is not the case here. The examiner's use of a passage

from Moro is tantamount to reading Moro as teaching that *any weight percent* could be utilized. Moro makes no such assertion. It does specifically teach one range, much higher than that claimed. In fact, the *lowest* range (0.3 wt%) taught in Moro is twice the *highest* range (0.15 wt%) recited in claims 2, 25, and 31. The examiner cannot reasonably read the passage as *teaching* 0.05 to about 1.0 or to about 0.15 weight percent any more than a range of 0 to 100 weight percent. The examiner's reading of the reference is unreasonable and reliance on the application of precedent is erroneous.

In addition, even if Moro did disclose an amount of insulating material less than 0.3 weight percent, that disclosure would not be specific enough to anticipate the claimed range of 0.05 to about 1.0 or to about 0.15 weight percent. "If the claims are directed to a narrow range, and the reference teaches a broad range, depending on the other facts of the case, it may be reasonable to conclude that the narrow range is not disclosed with 'sufficient specificity' to constitute an anticipation of the claims." M.P.E.P. 2131.03 (citing *Atofina v. Great Lakes Chem. Corp.*, 441 F.3d 991, 999, 78 USPQ2d 1417, 1423 (Fed. Cir. 2006)). In this case, Moro discloses ranges that do not even overlap with the range of claim 1, and that do not even approach those of claims 2, 25 and 31. Therefore, the claimed ranges cannot be anticipated by Moro.

In preparation of the Examiner's Answer, the examiner has apparently scoured the Moro disclosure for any indication that the claimed range is even close to that taught by Moro. Since the examiner found nothing close to the claimed range, the examiner presents various calculations in an attempt to argue that the claimed range is inherently disclosed, simply because Moro claims that using silicone resin in the range preferred by Moro (i.e., .3 to 5.0 wt % and preferably 0.5 to 3.0 wt%) may result in a desirably low core loss of approximately 1.14 W/lb. Moro, col. 5, lines 11-12; *see also* Examiner's Answer, pages 8-9. The examiner seems to believe that because the appellants disclosed in the specification that using an insulating material in accordance with the claimed techniques may result in a core loss of 6 W/lb or less, Moro must read on the present claims since "the core loss of the resulting magnetic material is about the same." *Id.*, at

page 9. The appellants respectfully assert that the examiner's calculations are irrelevant. The present claims do not recite or rely on ranges of *core loss*. Rather, the claims explicitly recite a specific range for the weight percent of an electrically insulating material. The recited weight percentages are not taught or suggested in Moro.

**The Board should consider the shape and composition recitations synergistically.**

The appellants urge the Board to consider the recitations discussed above together and not as isolated, esoteric distinctions. It is believed that improved materials are achieved through the invention both because the particles are elongated and because less insulating material is used. Indeed, the elongated shape of the particles and the reduction in insulating material (less than half that taught by Moro) work together to minimize core loss while maximizing magnetic permeability. *See*, Application, paragraph 27. The two distinctions, in fact, enable one another and enhance their respective effects on the resulting structures.

**Conclusion**

Appellant respectfully submits that all pending claims are in condition for allowance. However, if the Examiner or Board wishes to resolve any other issues by way of a telephone conference, the Examiner or Board is kindly invited to contact the undersigned attorney at the telephone number indicated below.

Respectfully submitted,

Date: April 5, 2010

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